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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,586	05/24/2002	Hans Lander	10191/2175	6461

26646 7590 09/10/2004

KENYON & KENYON
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

HWU, DAVIS D

ART UNIT PAPER NUMBER

3752

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,586

Applicant(s)

LANDER ET AL.

Examiner

Davis Hwu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. Applicant's amendment filed August 13, 2004 is acknowledged and entered.
2. Applicant's amendment and remarks have been fully considered.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 16, 19, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nally et al. in view of Rhoades.

The patent to Nally et al. discloses a fuel injector for an internal combustion engine having an externally supplied ignition, the fuel injector comprising a fuel inlet 56, a movable valve closure member 24, a fixed valve seat 40 as recited, and a downstream valve end including a component 41 and a fuel outlet, wherein the fuel outlet includes at least one discharge orifice of the component since the component 41 is an orifice disk, and the at least one discharge is arranged downstream of the fixed valve seat (see Figure 1). Nally et al. do not disclose the component including a coating as recited. The patent to Rhoades teaches a method of making a fuel injector in which the fuel injector comprises discharge orifices which are coated with PTFE which contains fluorine in order to attain precise flow resistance. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Nally et al. by providing a coating comprising PTFE around the at least one discharge orifice as taught by Rhoades in order to attain precise flow resistance. The method of coating a surface via spraying as recited in claim 24 is well known in the art.

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5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nally et al. in view of Rhoades as applied to claim 16 above, and further in view of Fedorovich et al.

The patent of Fedorovich et al. teaches coating internal combustion engines with fluorosilicate to improve heat resistance of the various surfaces of the engines. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Nally et al. and Rhoades by providing a coating comprising fluorosilicate as taught by Fedorovich et al. in order to provide heat resistance.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nally et al. in view of Rhoades as applied to claim 16 above, and further in view of Otomo et al.

The patent of Otomo et al. teaches coating gaskets with heat and corrosion resistant PTFE. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Nally et al. and Rhoades by providing coating comprising PTFE as taught by Otomo et al. to resist heat and corrosion of the discharge orifice.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nally et al. in view of Rhoades as applied to claim 16 above, and further in view of Komaroff et al.

The patent of Komaroff et al. teaches an internal combustion comprising an auto-ignition in which the auto-ignition is known to prevent the problem of having to convert time variables into angle variables as required in a spark-ignition engine.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of Nally et al. and Rhoades by providing the engine with an auto-ignition as taught by Komaroff et al. to prevent the problem of having to convert time variables into angle variables as required in a spark-ignition engine.

Response to Arguments

8. Applicant's arguments filed May 27, 2004 have been fully considered but they are not persuasive. Applicant's argument that Rhoades teaches finishing the inner surfaces of orifices is acknowledged, however, in finishing the entire inner surface of an orifice, the coating will extend to the edge radius of the outlet of the orifice in which the edge radius of the outlet of the orifice can be considered to be an immediate exterior of an outlet area of the at least one discharge orifice.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis Hwu whose telephone number is 703-305-1663. The examiner can normally be reached on M-F 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703)308-2087. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

A handwritten signature in black ink, appearing to be 'Davis Hwu', written in a cursive style.

Davis Hwu